

MECHANISM FOR PROVIDING HIGH INSTRUCTION FETCH BANDWIDTH IN A MULTI-THREADED PROCESSOR

Abstract of the Disclosure

The present invention provides a mechanism for supporting high bandwidth instruction fetching in a multi-threaded processor. A multi-threaded processor includes an instruction cache (I-cache) and a temporary instruction cache (TIC). In response to an instruction pointer (IP) of a first thread hitting in the I-cache, a first block of instructions for the thread is provided to an instruction buffer and a second block of instructions for the thread are provided to the TIC. On a subsequent clock interval, the second block of instructions is provided to the instruction buffer, and first and second blocks of instructions from a second thread are loaded into a second instruction buffer and the TIC, respectively.

FIG. 1 is a block diagram of a multi-threaded processor according to one embodiment of the present invention.